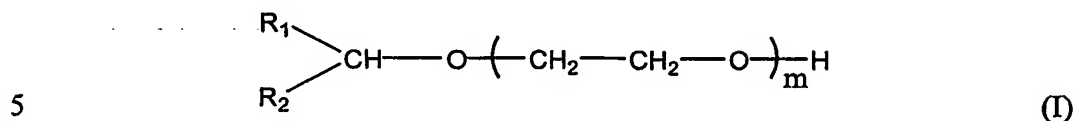


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## THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

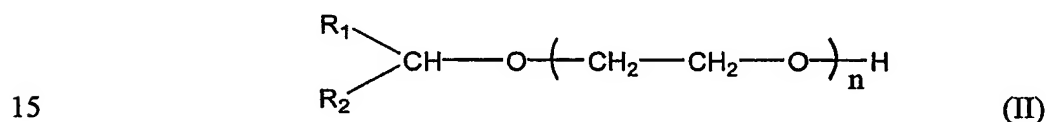
1. A compound of the formula (I):



wherein  $R_1$  and  $R_2$  are each independently  $C_1$ - $C_4$  alkyl, and  $m$  is 1, 2, 3, 4, or 5.

- 10 2. A compound according to claim 1, wherein the group  $R_1R_2CH-$  is 4-methyl-pent-2-yl.

3. A composition comprising at least two compounds of formula (II):



wherein  $R_1$  and  $R_2$  are each independently  $C_1$ - $C_4$  alkyl, and  $n$  is an integer  $\geq 0$  and wherein the average molar value of  $n$  for the total of the compounds of formula (II) in said composition is in the range of 1 to 3.

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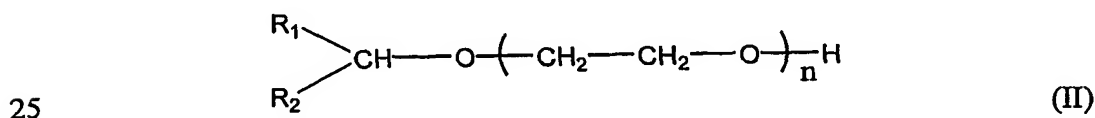
4. A composition according to claim 3 wherein the average molar value of  $n$  is in the range of 1 to 2.

5. A composition according to claim 4 wherein the average molar value of  $n$  is about  
25 1.7.

6. A composition according to claim 3 or claim 4 wherein  $R_1R_2CH-$  is 4-methyl-pent-2-yl.

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7. A composition according to any one of claims 3 to 6, wherein the compound of formula (II) where  $n=0$  comprises less than 15% by weight of the total composition.
- 5 8. A composition according to claim 7, wherein the compound of formula (II) where  $n=0$  comprises less than 10% by weight of the total composition.
9. A composition according to claim 7 or claim 8, wherein the compound of formula (I) where  $n=0$  comprises less than or equal to 6.5% by weight of the total composition.
- 10 10. A composition according to any one of claims 3 to 9, wherein the total combined weight of compounds where  $n=0$  and  $n=1$  is such that the closed-cup flash point of said composition is greater than 65°C.
- 15 11. A composition according to any one of claims 3 to 10, wherein the total weight of compounds of formula (I) where  $n$  is greater than 4 is less than 20% of the combined total of compounds of formula (I).
12. A composition according to any one of claims 3 to 11 which further comprises  
20 other additives.
13. A method of preparing a composition comprising at least two compounds of formula (II):



- wherein  $R_1$  and  $R_2$  are each independently  $C_1$ - $C_4$  alkyl, and  $n$  is an integer  $\geq 0$ , and  
 wherein the average molar value of  $n$  for the total of the compounds of formula (II)  
 in said composition is in the range of 1 to 3, said method comprising;  
 30 reacting an excess of  $C_3$ - $C_9$  secondary alcohol with ethylene oxide in the presence

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of a catalyst in an ethoxylation vessel to form a mixture of two or more compounds of formula (II), separating at least a portion of unreacted secondary alcohol from the mixture recycling the unreacted secondary alcohol back to the ethoxylation vessel.

5 14. A method according to claim 13, wherein the C<sub>3</sub>-C<sub>9</sub> secondary alcohol is 4-methyl-2-pentanol.

15. A method according to claim 13 or claim 14 wherein the unreacted secondary alcohol is removed by distillation to provide a composition comprising unreacted  
10 secondary alcohol in an amount of less than 15% by weight of the total composition.

16. A method according to claim 15, wherein unreacted secondary alcohol comprises less than 10% by weight of the total composition.

15 17. A method according to claim 15 or claim 16, wherein the unreacted secondary alcohol comprises less than or equal to 8% by weight of the total composition.

18. A method according to claim 13 comprising a distillation step to remove from the composition compounds of formula (II) wherein n=0 and n=1 such that the closed-cup  
20 flash point of said composition is greater than 65°C.

19. A method according to any one of claims 14 to 17 wherein total weight of compounds of formula (II) where n is greater than 4 in said composition is less than 20% of the combined total of the compounds of formula (II) in the composition.  
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20. A method according to any one of claims 13 to 18, wherein the ethylene oxide to C<sub>3</sub>-C<sub>9</sub> secondary alcohol ratio is kept below 70 wt% in said ethoxylation vessel.

21. A method according to claim 20, wherein the ratio is kept below 10 wt%.  
30

22. A method according to any one of claims 13 to 20, wherein the catalyst is an alkali

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metal or alkaline earth metal base catalyst or a Lewis or Bronsted acid catalyst.

23. A method according to any one of claims 13 to 21, wherein the catalyst is a Narrow Range Ethoxylation catalyst.

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24. A method according to claim 22, wherein the alkali metal catalyst is potassium hydroxide.

25. A method of preparing a compound of formula (I) according to claim 1, comprising  
10 reacting a C<sub>3</sub>-C<sub>9</sub> secondary alcohol with ethylene oxide in the presence of a catalyst, and isolating the compounds from the reaction mixture by distillation.

26. Use of a composition according to any one of claims 3 to 12 in the recovery of clean coal in a froth flotation process.

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27. Use of a composition according to claim 26, wherein the froth flotation process is performed in a Microcel<sup>®</sup>.

28. Use of a composition according to claim 26, wherein the froth flotation process is  
20 performed in a Jameson<sup>®</sup> cell.

29. Use of a composition according to claim 26 wherein the froth flotation process is performed in an EKOF<sup>®</sup> cell.

25 30. Use of a composition according to any one of claims 3 to 12 to lower surface tension and to improve the performance of dissolved air flotation.

31. Use of a composition according to any one of claims 3 to 12 in the recovery and concentration of desirable minerals or selective removal of undesirable minerals by  
30 flotation.

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32. Use of a composition according to any one of claims 3 to 12 in the recovery of sulphide minerals by flotation.

33. Use of a composition according to any one of claims 3 to 12 for refining mineral or coal by froth flotation.

34. Use of a composition according to any one of claims 3 to 12 as a solvent/co-solvent for formulation of dyes, oils, resins and other industrial products.

35. Use of a composition according to any one of claims 3 to 12 for coupling of polar organic compounds with hydrocarbon liquids.

36. Use of a composition according to any one of claims 3 to 12 as a diluent for hydraulic fluids.

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